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RAY HUGHES WHITBECK, Editor
Of the Department of Geology and Geography of the University of Wisconsin

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RAY HUGHES WHITBECK

Of the Department of Geology and Geography, University of Wisconsin.

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The JOURNAL of GEOGRAPHY

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AGRICULTURE ON THE NILE DELTA

By V. C. FINCH
University of Wisconsin, Madison

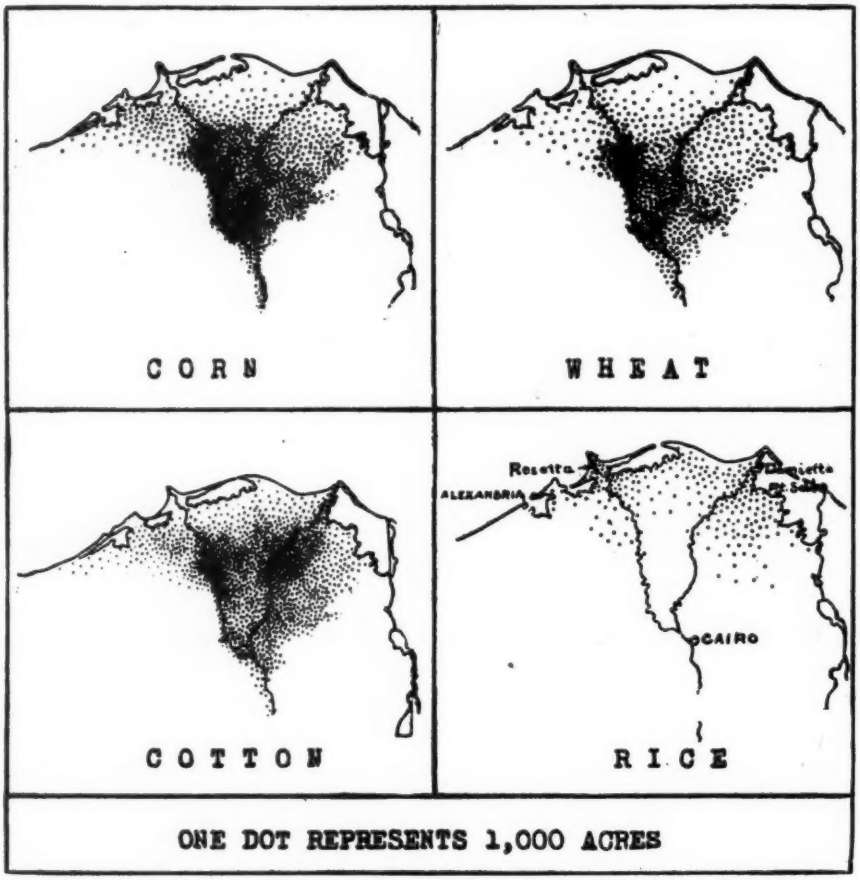
THE location, structure and outline of deltas are subjects emphasized in most geography classes. Indeed, so much is frequently said about the form of deltas and the origin of the rather descriptive name they bear that pupils loose sight of the individuality of the great deltas of the world. It is true that most deltas have certain physiographic characters in common and also that they are generally regions of considerable agricultural value. In the human aspects of their geography, however, the great deltas are as unlike and as individual as the continents.

Among the first peoples of the world to develop a settled agriculture were the inhabitants of the Nile valley. The geographic conditions which encouraged this early agriculture are still important though greatly modified by the many generations of men who have lived and worked in this historic region.

The area of Egypt is not proportionate to its world-wide fame as an agricultural region. The delta, which is the largest and most important section of cultivated Egypt, is small even in comparison with the smaller European countries or American states. The sides of the triangle which bound it are about 120 miles in length while the sea-ward margin measures only about 70 miles. Within these limits is included an area of about 6,250 sq. mi. This delta land, smaller in area than Massachusetts or New Jersey, is the heart of Egypt. It supports a population about the size of that of Pennsylvania, mainly by agriculture. This gives to good land the very high average value of $700.00 to $800.00 per acre. The farms are therefore small, usually less than five acres.

Situated as it is on the borders of a great desert no part of the Nile delta has sufficient rainfall to support agriculture. Even on the Mediterranean coast the precipitation averages little more than five inches annually, while Cairo, at the delta head, receives an average of only one inch of rain. The intensive agriculture of the region is possible only with abundant irrigation. For many centuries the waters of the river have been led out in a network of channels over the gently sloping surfaces created by the aggradational work of the two great distributaries, the Rosetta

and the Damietta channels. These, branching fork-like, divide the delta into three unequal parts; the outermost limits of the area being determined by irrigation canals which alone serve to set off the fertile lands from the desert beyond.



Modern engineering has worked many changes in the methods by which the Nile waters are spread over the fields of the cultivator. Under the old system the principal irrigation was accomplished by the natural summer flood of the river. The land was divided by earthen embankments into flat-bottomed basins. Into these poured the flood waters with their load of silt. The water was allowed to stand until the soil was fully soaked and the load of silt deposited and the excess then turned off into the drainage canals. Since the height of the flood is not always the same it was sometimes difficult to flood the higher basins near the river, while at other times the waters could not be controlled. A serious drawback to this method also lay in the fact

that the water occupied the land for a considerable part of the summer and extensive culivation of summer crops was rendered impossible.

The improvements of the last century have enabled the delta farmers to turn from this practice to perennial irrigation by means of which the fields can be watered at will without being wholly flooded. This is made possible by the storage of flood water further up the river behind the great dam at Assuan to be doled out in the winter period of scarcity; also by the construction of barrages. These are light wing-dams built at Cairo and at other places in the delta channels. When their sluices are closed they have the effect of piling the water of the river up temporarily during which time it may be turned into the irrigation canals without being pumped over the embankments. This process has the disadvantage of conveying less of the fertilizing silt to the land, a matter of importance in this wood-less land where all animal manures must be dried for fuel. This method of irrigation also imposes the additional necessity for a carefully worked out drainage system by means of which the soil is kept properly aerated.

The various crops which characterize Egyptian agriculture are in some measure responses to conditions of climate and soil, though irrigation has done much to render them less directly dependent upon their geographic environment. The crops which are the chief dependence of the people are four: wheat, corn, clover and cotton. The first two are for the food of the people, the third is the principal feed of the work animals in a land where there is little room for pasture. Cotton is the money crop. Other crops of minor importance are barley, sugar cane, legumes, millet and rice.

The agricultural year of Egypt is divided into three seasons, (1) *Saifi* (Summer, March to October) in which the corn, cotton, sugar-cane and rice are grown, (2) *Nili* or *Nil*, from the end of July to the end of October, is included in Saifi. It is the period of the rising Nile and is the particular time devoted to corn cultivation everywhere on the delta except on the salt lands of the northern margin where rice is important. (3) *Chitwi* (Winter, November to May) was formerly the principal agricultural season. It is during these months that the wheat, barley, beans and clover (berseem) are grown.

Egyptian cotton is valuable because of its long staple and receives a great deal of attention because of the cash income derived from it. It occupies, next to corn, the largest area in the delta. The planting begins in February and lasts until early

April. The land is watered once before plowing and again when the seed is sown. Thereafter it is watered at intervals of from fifteen to forty days. The fields are picked over two or three times between late August and early November. Following the removal of the cotton, clover is usually sown as a winter crop, also under irrigation. About half of the delta land is thus made to produce two crops per year. Where the land is in production the entire year the water supplied to it would total 70 inches.

Wheat and barley have grown in Egypt since earliest times, and it is to these grains that reference is made in the history of Joseph's sojourn in that country. The grains are of poor quality and have little market value. Corn, though a comparatively recent introduction, ranks first as a food of the people. The amount of rice grown depends upon the apparent abundance of water as estimated by the authorities. In 1914 it was altogether forbidden to grow it.

In this region of dense population the farmers, or *fellaheen*, do not live in scattered farm houses as do American farmers but in little crowded, mud-walled villages scattered thickly over the land. Though most unattractive from our point of view this custom has, to the Egyptian, the double advantage of being more economical of the valuable land and of affording protection against marauders.

References to Literature—Balls, W. L.: Egypt of the Egyptians; Wilcox and Craig: Egyptian Irrigation, V. II.; Annuaire Statistique de l'Egypte, 1914.

OREGON GEOGRAPHY TEACHERS ORGANIZE

AT THE annual meeting of the Oregon Teachers' Association in December, the geography teachers formed an Oregon branch of the National Council of Geography Teachers. Prof. L. P. Gilmore of the Monmouth Normal School was elected president and Miss Ida M. Smith of Eugene was elected secretary-treasurer. Prof. Warren D. Smith of the State University is state director. County organizations are being formed, Lane County having already begun holding monthly meetings. Director Smith writes: "I think we can see sunlight ahead in the geography situation in Oregon."

RUSSIA IN WAR TIME

By HORACE V. WINCHELL
Minneapolis, Minn.

The excellent article of which the following is an abridgment was published in the MINING AND SCIENTIFIC PRESS, *San Francisco, October 27, 1917, and came in our hands through the courtesy of Prof. A. N. Winchell of the University of Wisconsin. Representing, as the article does, the first hand observations and impressions of a highly competent observer and trained scientist, we feel that readers of the* JOURNAL *will welcome it since its original publication was in a periodical which few geography teachers are likely to see.* EDITOR.

THE total area of the Russian Empire is 8,600,000 square miles. Its population is estimated at 181,000,000. The total area of Europe is 3,800,000 square miles and the population about 450,000,000. The climate of Russia is continental and the variation between the summer and winter temperatures is great. The mean January temperature at Moscow is 54° lower than that of July. Central Germany has a temperature-range of 34°. The snow lies for many months over a large portion of the vast Muscovite territory. The annual rainfall in northern and central Russia is moderate, being from 20 to 24 in., but quite sufficient for crops, being distributed throughout the year. As one goes south the rainfall decreases rapidly, averaging from 8 to 12 in., and in the extreme south there is very little precipitation in the fall and winter, so that the period of vegetation is too short to permit the growth of trees. Thus we find the forests of northern Russia contrasted with the steppes of southern Russia, and this contrast makes itself felt in every department of economic and national life. The forest district begins at the Arctic circle, where the trees are coniferous, consisting largely of spruce, fir, pine, and birch, and extends southward to the latitude of Moscow and the upper waters of the Volga. The mixed forest region covers central and western Russia as far south as the Black Sea. In the Caucasus I saw the finest forests of white oak, white ash, Persian walnut, and beach, together with beautiful fir and hemlock.

The population of the coniferous belt varies from 1½ to 36 per square mile. In Finland, which is somewhat warmer, the population is 21 per square mile, but agriculture and stock raising are comparatively unimportant. The population of the mixed forest region is from 50 to 130 per square mile, exclusive of Moscow. The population of the Baltic region is from 60 to 80 per square mile, while Poland, which is extremely fertile, has a dense agricultural and industrial population amounting to 288 per square mile. The great agricultural region of Russia is found in the steppes. This is largely known as the 'Black Earth'

region. It has a moderate rainfall and produces all kinds of grain, and large crops of sugar beets. The population is from 120 to 230 per square mile.

The People

Just as varied as the physical features of the country are its inhabitants. The different peoples have through years of conquest become united to form one nation, but they are still far from being welded into one race. There are wide discrepancies in language, physical type, customs, dress, and religion. The two main races in Russia proper are the Indo-Europeans in the south-west and the Finns in the north-east, the Finns being an offshoot from the Mongolian race. Russians or Slavs of Aryan or Indo-European descent amount to about 75% of the population of European Russia. They are members of the Greek Catholic church, of which several sects exist, and they are divided into three stocks.

The Great Russians, numbering about 52,000,000 in European Russia, live in territory from which they have driven the Finns, with which people they are somewhat mingled, and thus occupy northern and central Russia, including the north-eastern part of the 'Black Earth' region, and also territory in eastern and south-eastern Russia from which they have driven the Tartars. Physically they are blond, blue-eyed, and vigorous, with broad shoulders and bull necks, often somewhat clumsy, and with a strong tendency to corpulency. Their character has been influenced not only by a long history of subjugation to feudal despotism, but also by the gloomy forests, the unresponsive soil and the rigorous climate, and especially by the enforced inactivity of the long winters. In disposition they are melancholy and reserved, clinging obstinately to their traditions, and full of self-sacrificing devotion to Czar, Church, and feudal superior. They are easily disciplined, and so make excellent soldiers, but they have little power of independent thinking or of initiation. The normal Great Russian is thus the mainstay of political and economic inertia and reaction. Even the educated Russian gives apparently little response to the actual demands of living. He is more or less the victim of fancy and temperament, which sometimes lead to a despondent slackness, sometimes to emotional outbursts. Here we have the explanation of the want of organization, the disorder, and the waste of time, which strikes the Western visitor to Russia. This pessimistic outlook finds expression in the word which is forever on Russian lips—'Nitchevo,' 'it doesn't matter.'

The White Russians number about 6,000,000, and probably derive their name from the white color of their clothing. They

occupy the provinces of Minsk, Mohilev, Vilna, Vitelsk, and Grodno. They are the poorest and least advanced of the three Russian stocks.

The Little Russians, numbering 20,000,000, are settled in the 'Black Earth' district or Little Russia proper, and in the Ukraine, which includes the provinces of Kiev, Poltara, Kharkov, and Tchernigov. They have also spread into Galicia and north-eastern Hungary, and have colonized in other directions. They are slender and dark, with the emotional southern temperament, and speak a dialect different from the other Russians.

The Cossacks are not a distinct stock, but are descended from the refugees and outlaws that occupied frontier districts between the settled and the nomadic tribes. They were afterward organized as a frontier militia and as a light cavalry. The Cossacks are found in the valley of the Don, in the Urals, and in Siberia.

Other peoples. About 8,000,000 Poles are found in western Russia. Other races included within this vast nation are the Letts, 1,400,000; the Lithuanians, 1,200,000; Germans, 2,000,000; Swedes, 370,000; Rumanians, constituting the bulk of the population in Bessarabia, 1,000,000; Bulgarians and Greeks, who are fairly numerous in southern Russia; Jews, 5,100,000, until recently not permitted to live in either Great Russia or East Russia, speaking a German dialect mixed with Hebrew, but also familiar with the Russian language; Mongolians, of whom there are said to be 9,000,000 in Russia proper, and many more in Siberia; 170,000 Kalmucks of Mongol blood professing the religion of Lama; the Ural Mountain people, 5,400,000, consisting of eastern Finns, which includes the Ugrians, the Permiaks, the Syryenians, the Samoyedes, the Volga Finns, the Votyaks, and the western Finns, amounting in all to nearly 4,000,000, including the true Finns, the Esthonians, the Lapps, the Tchudes, and the Livonians. There are also Mohammedan Turks,Tartars of various branches, Bashkirs, Kirghizes, and many others, including Georgians, Lesghians, Daghestanians, and more besides. It will thus be seen that, if in America we have a melting-pot of nations, in Russia there is a racial volcano from which eruptions may be expected for a long time to come.

Economic Conditions

Russia, by virtue of its geographical situation, its natural features, and its history, is a land of raw products, although in the past 50 years the manufacturing industry has developed rapidly. Fully 80% of its population lives by agriculture, yet only 26.2% of the total area is under tillage, and 15.9% is devoted to

gardens, meadows, and pastures. Forests cover 28.8,% and 19.1% is wholly barren. The manufacturing industry is as yet of minor importance. There is a great lack of native capital and of competent workmen. The products are limited to articles of common use for distribution in Russia and in central Asia. In Poland the predominant industry is the manufacture of cotton and other textiles. One important industrial district in central Russia extends on the south from Moscow to the coalfields of Kaluga and Tula, on the north to Tver and Yaroslavl, and on the east to Ivanovo and Vladismir. The chief manufactures here are textile and metal wares, together with wooden articles. The iron industry of southern Russia, where coal and iron are found together in the Donetz basin, has already materially decreased the imports from foreign countries, and a few years before the War it developed a small export trade. This district now has a production twice as great as the old and famous iron district of the Urals, where charcoal and lignite were used for fuel.

There are manufacturing establishments producing cotton, metal wares, machinery, and chemicals in the cities on the Baltic, such as Petrograd and Riga. In Finland the great abundance of timber and water-power support wood-pulp, paper, and other industries, and in the steppe-region are flour mills and beet-sugar factories.

The railroad system of European Russia is nearly as large as that of Germany. Considering mileage alone, 25,447 miles were open for traffic on January 1, 1912, but the ratio of mileage to area was one mile of railroad for every 59 square miles of territory, which is less than for any other country except Norway. The United Kingdom has one mile of railroad for each 5.3 square miles; Germany one mile for 5.8, and the United States one mile for every 15.7 square miles. The Russians use a broader gauge than the other railroads in Europe and this difference is a serious obstacle to through traffic.

The people of Russia, including the Jews and nomads, are divided into four classes: nobles, officials, clergy, and peasants, the latter including the laborers. The really sharp distinction, however, is that between the great mass of the people on one side and the hereditary and official nobility and the burgess class on the other. The upper classes are noted for their luxury and extravagance, and for their reckless gambling, their better side showing itself in their unlimited hospitality. The lower classes live in unspeakable poverty and destitution. Beggars are numerous and troublesome, especially in the vicinity of churches. At the present time conditions of living are most difficult. With the declining value of the Russian ruble, which is normally worth

51c., and which is now quoted at about 14c., with its actual purchasing-power still less, together with the extremely high prices asked for whatever small stocks of supplies still remain in the hands of the merchants, it is a wonder how the ordinary individual can support himself and his family. A pair of boots costs from 100 to 200 rubles, and can be obtained with difficulty even at such prices. Food of all kinds is scarce in the larger centres of population, and can be obtained only in limited quantity by means of bread-cards, sugar-cards, and the like. A lemon or a small apple costs from one to two rubles. A Russian pound of strawberries, which is nine-tenths of a pound avoirdupois, costs from two to four rubles. These strawberries, by the way, are the finest I have ever eaten. I saw canteloupe selling at 40 rubles; cucumbers, of which the Russians are very fond, at one to two rubles each. No white bread was to be had in even the best hotels in Petrograd and Moscow for a number of weeks before my departure. The Russian black bread seemed to be composed of tar and cobblestones. I broke two teeth upon this locally esteemed Russian delicacy.

Official Graft

The government owns the telegraph service and many of the railways. The managers of these public utilities are Government officials; yet it was the universal practice for the telegraph companies to exact three times the regular rate for a telegram, saying that there was great congestion and that a telegram must be rated as 'urgent' in order to receive attention. After accepting triple payment these Government officials would perhaps put a postage stamp upon the telegram, or would pay no further attention to it whatever. Occasionally telegrams from Petrograd to the Causasus would come through in 10 days. Occasionally they arrived after three weeks and frequently not at all. Likewise with the railway officials. I paid several hundred rubles to have my baggage transported by railway from Petrograd to the Caucasus. On arriving at the Don river, where a bridge was out, I found thousands of soldiers fighting for a chance to cross upon the small steamers, and there was no possibility of getting my baggage across unless I took it myself. I was told that the bridge might not be repaired for a month, but that the baggage would eventually be forwarded. Having heard so many tales of the loss of baggage I took my trunks from the possession of the railway company on the west side of the river Don, and at an expense of 300 rubles and after much labor, I got it across the river and presented it to the officials of the same railway on the eastern side of the river. These officials informed me

that having once taken my baggage from the custody of the railway, it was again necessary to pay several hundred rubles to get it carried to its destination.

I could relate many instances of Governmental graft that came within my own experience or that of my friends. Every merchant who has succeeded during the last three years in getting merchandise ordered for the Government or for private consumption from Archangel or Vladivostok to Petrograd will tell of innumerable instances in which he has been obliged to pay extortionate graft to the railway officials before he could get a car in which to forward his freight. At the time of leaving Russia factories were closing, and all kinds of business was rapidly coming to a standstill. The workingman has no conception of a limit to what he may demand. Pay has been increased and hours shortened again and again. Efficiency, which was never great, has fallen off to such an extent that no one can operate at a profit, notwithstanding the high prices commanded by his products. Take for example the cost of mining coal in the Donetz basin; before the War this may have been at most three rubles, or $1.50 per ton. At the present time the cost is not less than $8 gold, and is probably nearer $12. Manufacturers in this district are losing money. They are required by the Government to continue operating, and as a result they are borrowing from the Government to meet their payrolls.

The Political Situation in the Autumn of 1917.

Politically the situation in Russia is decidedly mixed. There are many different parties and no one can say which will secure the adherence of the mass of the people. These parties include the following:

First: Anarchists.

Second: Quite similar to the anarchists, but denying this appellation, since the object of the anarchists was to establish a Government without laws and primarily to overthrow the Czar's regime, which has been accomplished, are the Maximalists or Bolsheviki. These Bolsheviki are extreme socialists who demand confiscation of all kinds of property without compensation and the carrying on of all business by the Government.

Third: Minimalists or Mensheviki. These are socialists whose programme includes the taking over of all forms of business by the Government, and involves Government ownership of all lands now in private estates, but they do not demand that this be done without compensation to the present owner.

Fourth: The Social Revolutionists, whose programme is still somewhat more moderate.

Fifth: The Labor Group allied with the previous two, but concerned more with labor questions than with the question of land ownershhip.

Sixth: The National Freedom party, the 'Narodniki', or Liberal party, of which Miliukoff, Lvoff, and others are members.

Seventh: The Octobrists, or Monarchists, who believe that Russia is not yet ready for a democracy and who wish an autocracy to be re-established.

Eighth: The extreme right or supporters of the old Czar, Grand Dukes, and the rest.

The Bolsheviki are the most dangerous and make the most noise. They are the disturbing element; they consent one week to the authority of the Provisional Government and the next week, because this government does not act in all respects in accordance with their demands, they revolt against it. The Liberal party has been forced into the background. Its members are some of the finest men in Russia, but they are persons of markedly Russian type, lacking in both determination and executive ability. These men had for years spasmodically striven to educate the people and to bring about political reform. When the revolution was accomplished they were appointed Ministers under a Provisional Government, and had it not been for the strong socialistic tendencies and propaganda of the soldiers and workingmen, there would have been established in Russia under their guidance one of the most advanced democracies of the world. Miliukoff is a splendid character. He was lecturer on international law at the University of Chicago. He has traveled. He is a magnetic speaker, and is one of the finest men in Russia today. Fearless and honest, he, it was, who at the risk of his life, denounced in the Russian Duma the former Prime Minister Stuermer who was accused of being a German spy and a traitor to Russia, and who is said to have died in Petrograd on the eve of his trial for treason. The former Minister of War, Sukhomlinoff, has been condemned to life imprisonment for betraying his country; and Protopopoff, former Minister of Railways, is still awaiting trial. These men were accused of being in the pay of Germany, and are said to have been directly responsible for the loss of hundreds of thousands of Russian lives.

The Future

Now, as to the future: Americans are interested to know what can be expected of Russia, first in the present War; second, as a land of opportunity after the trouble. Russia is no place today in which to set on foot new industrial enterprises. Labor is too scarce, too inefficient, and too expensive. Titles are in-

secure until we know whether or not the socialistic programme is to be carried out to its full extent. Taking a broad view, I should say that Russia is a land of opportunity.

Practical consideration of the favorable side of the case needs to take into account, (a) that the great territory of Russia and Siberia is the largest undeveloped domain. Other things being equal and favorable, it presents the largest field for exploration and the investment of capital; (b) it is in the north temperate zone, and covers a wide range of climate and latitude. Its products are as varied as those of the United States, both in mineral and agricultural wealth. Its population, which is already nearly twice as great as ours, is rapidly increasing; (c) whatever the form of its future government, the country is now on the eve of great development, and will furnish a market for all forms of products, especially those which can be manufactured and produced within its borders; (d) the people are friendly by nature, and especially friendly to Americans. They are also moderate, and will, I think, with a little education, be fair in their dealings with us; (e) prohibition prevails throughout the land, and there is no disposition to make a change in that respect; (f) although there is need of money for large undertakings, there seems, nevertheless, to be an abundance for the purchase of every-day necessaries and luxuries.

The unfavorable factors are the following:

(1) *Governmental and political*: (a) The present Government, which is frankly provisional, will exist only so long as it holds the confidence of the soldiers and the people. The organized force behind it has limited power for compelling obedience to its mandates. Under the guidance of patriotic men who seek only the common good, it finds itself obliged to decide between the selfish and conflicting demands of the various classes of society, many of whom, especially the peasants and laboring men, have not the slightest conception of the meaning of the words 'freedom' and 'democracy'. The ship of state is in perilous waters, and requires a skilful skipper. Among the temporary ministers are representatives of all classes with the possible exception of the peasants, and an occasional clash of interests is unavoidable. The socialists demand the distribution of lands formerly held by the Cabinet and now in large estates (two different varieties of large holdings); the laboring men clamor for concessions and privileges which they believe are enjoyed by laborers in other countries; the tribes are demanding freedom and even rising in revolt to obtain it, although lacking entirely in the ability to govern themselves; and the soldiers have an idea that 'freedom' means that they can have everything without

price, and, often in large numbers, are riding on street-cars and railroad-trains without paying fare; and while there is rejoicing over what has been accomplished, there is also unrest and apprehension for the future. (b) The concessions which have already been made to the Poles and Finns, without requiring any guarantee of future support and allegiance, are felt by some to constitute a menace. The same may be said of the privileges thus early granted to the workingmen. (c) The old Russian laws, most of which remain in force, are cumbersome and inapplicable to business. Until they are revised, new enterprises will of necessity be undertaken with great caution. (d) The Jews, who are returning to Russia in great numbers, and who have long exerted an influence beneath the surface, are now becoming more outspoken and often arrogant. Their presence will be valuable in a way, for they are already acquiring property which formerly they were forbidden to hold, and will not favor the confiscation of real estate, but if they become too bold and prominent disturbances will arise from existing racial antipathies.

(2) *Practical Difficulties.* (a) The most obvious difficulty in the way of business at present is the lack of transportation. The railway systems are totally inadequate. Rolling stock is out of order, and little effort seems to be made to repair it. Repair shops are needed, but even if provided there would be no mechanics to fill them. There is a shortage of every conceivable commodity all over the Russian dominions. It is impossible to get freight forward. Most of the available cars and engines are needed for transporting troops and war-supplies. Hundreds of thousands of tons of freight have been lying for months at Vladivostok without means of moving it to the western centres of population. Nothing but war-supplies may be brought over the railways from Archangel and Mourman. There are but few wagon-roads, and those very bad. The railroad from Sweden is almost useless for handling freight since the neutrality laws forbid the bringing of supplies that way. What is most needed just now is 10,000 American railroad men and mechanics to build shops and repair the rolling-stock already on hand and to operate the Siberian road properly, and thousands more of new cars and hundreds of locomotives from the United States; but to such a programme there is an objection which will be mentioned later. Transportation now is frightfully slow, and this applies as well to passenger traffic. The American railroad commission is doing much to improve the situation, but it is still bad. (b) In the next place there is a lack of men for almost every kind of work, and when they can be hired they are arbitrary, expensive, indifferent, and unreliable. (c) There is an inordinate number of

holidays, about 30 under the old regime, each lasting from a day to a week, and during these festal occasions laborers of all kinds refuse to work, stores are closed, the postoffice goes out of business, hotels and restaurants refuse to serve meals, and industry is out of joint. (d) The Russian workman cannot be said to be particularly industrious or efficient. He has little initiative and less executive ability. For ages he has been dependent upon his master, has earned little more than his keep, and has not learned to think for himself. His ideas now are greatly confused, and he spends a considerable portion of his time discussing with his mates the wonderful thing that has happened and what to do. The results of his deliberations are sometimes grotesque indeed. Whatever the outcome, the present effect is low efficiency and poor discipline. (e) In these days when the people see property of various kinds being confiscated by the new Government, they are apt to believe that there is no limit to possible confiscations. There is a desire on the part of the proletariat to take from those that have and give to those that have not; and there is fear on the part of those who have that they will not long be permitted to own and enjoy that which they possess.

In spite of the inability of the Russians to furnish all the supplies needed for the army and at the same time provide ample supplies of food, fuel, clothes, and other necessaries for the non-belligerents, there is an insuperable reluctance to permit Americans or anyone else to perform this service for them. In their pride and in their desire to develop their own resources they object to the introduction of foreign labor or manufactured products. Thus they are in dire need of railways, but in their charters for new roads they always require the use of rails and other structural materials of Russian manufacture, even though it is quite apparent that these cannot possibly be obtained. They need skilled men in their shops and factories and for operating their railroads, but will not permit them to be imported even for the time necessary to put things in order. Under these circumstances it will be next to impossible to render them the greatest service within our power.

In summing up the Russian situation I will quote a well-known Moscow merchant now in this country: "Day after tomorrow Russia will be all right, but there may be a long day and a couple of dark nights in the interval."

To the business man I would say: "Keep your eyes on Russia, but your money out of it for the next few years." To the younger man, students of business and of engineering: "Study the language of Russia, become familiar with its history, its geography, its people. The time is near when such knowledge will be valuable and will command high wages and will offer rich rewards in the opportunity to take an active part in the development of a great nation."

PRONUNCIATION OF CERTAIN PLACE NAMES

By Roland M. Harper
College Point, N. Y.

OF THE thousands of geographical names of Indian origin in the United States, probably the pronunciation of the majority has changed little if at all since colonial times, being passed on by word of mouth from one generation to another and by many persons simultaneously, including numerous illiterates who are not influenced perceptibly by printed words; while the spelling of some of them has undergone many transformations in the efforts of different writers to fit English syllables to Indian sounds. With the increase of text-books and other geographical literature many place-names are put into circulation, as it were, in distant parts where readers may have no guide to the pronunciation except the spelling, which is often capable of different interpretations, especially in the matter of accent. And if a teacher happens to guess the pronunciation wrong and pass it on thus to his or her pupils they are likely to carry the wrong impression through life, unless they visit the place in question or meet some one who has been there, for habits of speech formed in school are hard to break.

One of the most frequently mispronounced geographical names is Arkansas, the name of a river and state, and part of the name of a few towns, such as Arkansas City, Kansas. The French exploring expedition under LaSalle in 1680 found on the west side of the lower Mississippi River a tribe of Indians calling themselves (according to simplest possible spelling) *Akansa* or *Arkansa*. When their territory became a French colony the geographers of that nation added an 's' to the name, presumably for the sake of appearances only, for a final 's' in French is silent.* When it was acquired by the United States through the Louisiana Purchase in 1803 the spelling 'Arkansas' had come into pretty general use, though as late as 1821 the naturalist Thomas Nuttall published a "Journal of travels into the Arkansa territory."

After Kansas was admitted to the Union, in 1861, it was natural for uninformed people several hundred miles away to suppose that Arkansas was a mere variation of it, and rhymed with it. (It is noteworthy, however, that on some maps Kansas is spelled, 'Kanzas', as if to emphasize the difference in pronunciation between it and Arkansas.) This misconception became

*See R. H. Loughridge, Tenth Census U. S. 5:545 (footnote). 1884. The French about the same time applied the spelling 'Tensas' to a river in southern Alabama, formerly spelled Taensa and now Tensaw.

so widespread, and the citizens of the older state so wrought up over it,* that in 1881 the Arkansas legislature sought to check it by defining the pronunciation by statute; and this did serve the purpose to some extent, as persons who were in school then or previously may remember. The statute said nothing about the name of the river, however, that presumably being taken for granted; and as late as August, 1917, (as well as twice in 1915) one of the most influential newspapers in the Middle West, located not more than 200 miles from Arkansas, published a statement, in reply to queries, to the effect that while the name of the state was 'Arkansaw', the river and city were pronounced 'Arkanzas.'

When it was pointed out by the writer to the management of that paper that it was inconceivable that the intelligent citizens of Arkansas should pronounce the name of their principal river differently from that of the state, and that the correct pronunciation was well known if not universal as far up the river as Colorado,† they refused to admit their error, and pretended to believe that even in Arkansas itself the incorrect pronunciation of the name of the state prevailed, regardless of the action of the legislature. Very likely the false form has gained a considerable foothold in Kansas (through which the Arkansas River flows for several hundred miles), and it is certainly still heard in other parts of the country, especially among persons with inelastic minds; but a pronunciation based on such evident misconception does not deserve to be perpetuated, and readers of this journal should strive to discountenance it whenever it "shows its head."

There are numerous other place-names in the United States that have been frequently mispronounced or are likely to be on account of their more or less misleading orthography or peculiar accent, and a few of them will be discussed here. The majority are in the southeastern states, and not all of them are of Indian origin.

Accomac, a county in Virginia, does not rhyme with Potomac, but is accented on the first and last syllables.

*The erroneous pronunciation may have been fostered also by the same sort of spirit that prompts northern writers of alleged southern dialect stories to pretend to believe that southern people, and especially negroes, use "you-all" in the singular; a belief which is quite unfounded.

†Persons who have lived or traveled in those parts testify that the correct (original) pronunciation of the name of the Arkansas River is about as common in Oklahoma as in Arkansas, and is by no means infrequent in Kansas and Colorado.

Alabama is pronounced with the accented syllables short, though many people in the northeastern states insist on calling it 'Ahlabahma', even after they have visited the state and had ample opportunity to learn better.

However, *Alachua,* the name of a county, town, and intermittent lake in Florida, is locally pronounced 'Alahchuay'.

Alapaha, a river in southern Georgia, is accented on the second syllable, and pronounced as if it were 'Alappahaw'.

Atchafalaya, a river in Louisiana, is accented on the second and fourth syllables, and the former is short and the latter pronounced like long i.

Both North and South Carolina have seaports named *Beaufort,* but the former is pronounced 'Bofort' and the latter 'Bufort'.

Choctawhatchee, a river in Alabama and Florida, is pronounced as if it were hyphenated in the middle.

Conecuh, a river and county in Alabama, is pronounced 'Conaka', with the second syllable long and accented.

Coweta, a county in Georgia, is pronounced as if it were hyphenated in the middle, the second syllable long and accented.

The first syllable of *Duplin,* a county in North Carolina, is long, as in duplicate.

Edisto, a river in South Carolina, has the first syllable short and accented, and the same is true of *Etowah,* a river in Georgia and county in Alabama.

Houston County, Georgia (named for John Houstoun, an 18th century governor), and Houston, Florida, are pronounced "Howston', while *Houston* County, Alabama, (named for George S. Houston, governor in 1874-1878), like Houston, Texas, is pronounced 'Hewston'.

Kissimmee, Florida, is accented on the middle syllable.

Bradford Torrey, in his charming little Florida Sketch-book, 1894, (p. 190) expressed some surprise, if not derision, at hearing the name of *Lafayette* County accented on the second syllable; but if he had gone to Lake Lafayette, Fla., Lafayette, Ga., Lafayette, Ala., or Lafayette County, Miss., he would have heard the same pronunciation.

Louisville, Georgia, and *Louisville,* Kentucky, are both county-seats of Jefferson County, and are about the same age (the former was capital of Georgia from 1795 to 1807, when the center of population of the state was nearest to it), but the 's' is pronounced in Georgia (and perhaps in a few other states which have places similarly named), but not in Kentucky.

Lowville, the county-seat of Lewis County, New York, is pronounced 'Loville' even by many residents of the same state,

a very natural error; but the first syllable rhymes with cow.

Miami, Florida, has the first syllable long and the second short and accented (not 'Mee-ahmi' as some northeastern people would have it).

Micanopy, Florida, is pronounced 'Mick-a-nopy'.

Muscogee, a county in Georgia, is accented on the second syllable, and the 'g' is hard.

Although the writer had long been accustomed to a short 'a' in the penult of Alabama, Colorado, Indiana and Montana, he somehow imagined that Nevada was pronounced 'Nevahda', until he went west in 1915 and learned better.

Ocala, Florida, has the middle syllable short and accented.

Ocklawaha, a noted river in central Florida, is pronounced 'Ockla-waw-haw', with the accent on the penult. (In recent years some careless people have been leaving out the 'c', thus giving the impression that the first syllable is long as in Oklahoma.)

Ocmulgee, a river in Georgia, has the first syllable long and the 'g' hard.

Perquimans, a county in North Carolina, has the second syllable short and accented.

Taliaferro, a county in Georgia, is pronounced 'Tolliver'.

Tohopekaliga, a lake in Florida, has the second and fifth syllables long and accented.

In editions of the New International Encyclopaedia previous to the latest (1914-1916) the impression is given that *Tucson,* Arizona, is pronounced as it looks. But every one who has stopped there or had oral communications from there knows that the 'c' is silent and the second syllable accented (though short).

Tuskegee, Alabama, has the middle syllable long and the 'g' hard.

Wekiva, a name applied to two or three large springs and short rivers in Florida, is pronounced 'Wekeva', with the accent on the second syllable.

Tides of the Bay of Fundy

The Hon. James White of the Canadian Commision of Conservation informs us that the tide in the Bay of Fundy rose 57.6 feet at the time of the Saxby storm. This was officially determined and holds the record as the highest known tide in the Bay. Frequently quoted reports of tides 70 feet in height are incorrect.

STREETS OF CITIES

By Frederick Homburg
Woodward High School, Cincinnati, Ohio.

THE old characteristics which marked the difference between town and village no longer exist, and it is somewhat difficult to give a satisfactory definition of either term. The walls and gates of medieval times have been swept away; and with their disappearance the difference between city and country has become hazy and indistinct. Size and population are no longer criteria; there are settlements in Africa marked on the map which differ in no other respect from unmarked humble villages of which they are merely aggregates. Some would base the difference on charters; but the chartered privileges of many towns of old, such as markets and fairs or the exclusive right of town guilds in certain lines of manufacture no longer exist.

Why Towns Were Built

Let us ask: What were the objects of settlement? First and foremost came considerations of security, the gregarious instinct, which impelled men, like animals, to flock together for mutual aid and protection. At one time fortifications were the characteristics of towns; now, most towns are open, for what is not defended cannot be attacked. Of course there are still fortified towns, but this is incidental to their strategic position. Next to safety came the opportunity of producing and handling goods and hence as much accessibility as was consistent with safety.

A village location is fixed by the soil to be cultivated or the mineral to be mined and by opportunity of marketing the raw products. Some manufacturing may be carried on in some lands in the open country, but this is vastly different from the organization of skilled labor in towns. For towns, ease of production and of approach are prime considerations, because of securing raw products and disposing of manufactured ones. Town dwellers, then, are not producers of raw material; but they are interested in manufacture on a large scale, in commerce, in government, in special functions, etc.

Ease of Movement Necessary

It follows that in a town, every obstruction to trade and industry, rapid transit and easy communication, must be removed, and that therefore city streets are very different from country roads. In many sections of Europe the difference is not so marked as in more recently settled countries; indeed, the Romans were the best road builders, many of their roads having borne

traffic since their construction before the beginning of our era. City streets because of intensive and continuous use must be well paved. For this purpose all sorts of material have been tried, and each has some special advantage: wood blocks treated with some preservative, granite blocks, brick, asphalt, cement, etc. The streets must be somewhat convex and slightly inclined so as to drain well, and be furnished with sidewalks for the accomodation and security of pedestrians. In congested parts, traffic must be regulated by authority to avoid the annoying stoppages of former days; hence so-called traffic officers are stationed at important crossings. Underneath the street, the ground is tunneled for all sorts of purposes: sewers, water mains, high pressure service, gas mains, electric conduits, etc. The surface must be kept clean; perishable waste must not be left to the disposal of scavengers (as has been done in some towns in warmer regions); nor must we wait for the elements to remove dust, mud or snow. Streets are sprinkled and swept usually by night to avoid interference and annoyance. The removal of a heavy snow may cost a city thousands of dollars; but this is regarded as money well spent, for the hindrance to traffic would mean a much greater loss.

The Plan of Streets

The natural plan for the streets would seem to be the radial; for country roads lead to town from all directions. It would be a small place where the converging roads would suffice; so in the newer settlements and in modern additions to old towns, the rectangular block system or the checkerboard scheme prevails. Some claim that this is patterned after the Roman fortified camp; but would it not be fairer to suppose that the military leaders of Rome took the hint from the towns, (for *Roma quadriata* existed before the *castrum*), and that later on, reasonable beings would strike the same simple scheme for similar practical reasons? In planning new settlements there are no property rights to be regarded because none exist; and the determining factors are traffic and convenience.

Of course shore lines and contour lines may compel modifications of the scheme; but as a rule the rectangular blocks are so characteristic of American towns that distances are correctly gauged by blocks, so many to a mile, etc. Usually streets are in the direction of meridians and parallels; but diagonals (i.e. N.E to S.W. and N.W to S.E.) would give the same scheme, and, according to some, would be far better, inasmuch as the sunlight received by windows would be more evenly distributed. Here are the diagrams:

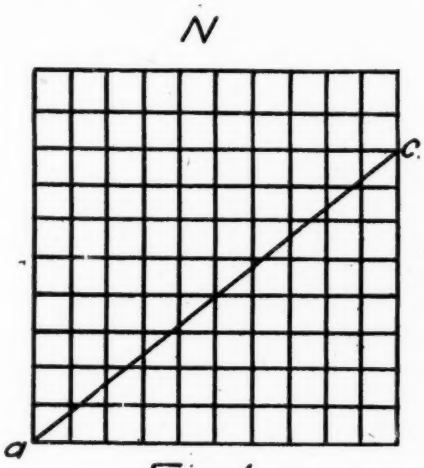


Fig. 1

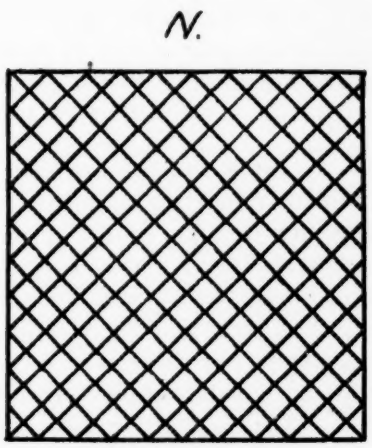


Fig. 2.

Usually streets are straight; although circular streets have been planned like belt lines on the outskirts of a town. The models for these will be explained below. Winding ways are often used for variety and beauty in parks and park-like suburbs; otherwise crooked streets are found in old parts of old towns. Europeans traveling in the United States (and in other recently settled countries) have remarked in tones of complaint, that the sameness of our cities is wearisome, that they are constructed according to one pattern, that they change in the same way because improvements (real or imaginary) are copied by all, and thus they resemble each other like the dress of civilized people, who all follow the dictates of some autocrat of fashion. Some cities like Boston, an historic old place, and Washington, a carefully planned one, are acknowledged to be different from the general run and on that account more interesting. How different, these critics say, are the cities of Europe; there each town has an individuality all its own; and its history may be read in its streets and its buildings. When you awake in an American hotel you must study in what town you are, towns and customs are so uniform.

Some of our railroads have issued folders giving diagrams or plats of the business portions of the chief cities on their lines. This is an excellent way of advertising, for it calls attention to the importance of the system, and it is a help to the traveler. A glance at such a series of plans next to each other will give an impression of monotony and serve to justify the criticism above. Most oriental towns have an individuality that cannot win admiration. Often, as for example many towns in China, the places are surrounded by walls, in many cases of great pro-

portions; so their outline or perimeter is very regular, but within irregularity is the rule; especially annoying are the many blind lanes.

Old Cities of Europe

It must be acknowledged many old European cities have their own picturesque character; but this does not depend altogether on age. One of the oldest towns of Europe, Turin in northern Italy, whose foundation dates back to Ligurian times, is in all respects a modern city laid out in rectangular blocks.

The crooked or winding streets of a town of the Middle Ages were considered of advantage for defensive purposes. The wall which defended and at the same time hemmed in the town was often circular, because a circle for a given length of perimeter encloses the largest area. As the population increased, space became precious; the girdle did not yield and the city grew toward the sky. This accounts for the tall buildings, the projecting upper stories, the narrow streets, etc. Conditions were most unsanitary; refuse was thrown into the dark streets, and the ditch about the wall was the receptacle of all offal. All this was changed when the fortifications, becoming unnecessary, were removed. The broad circular space thus gained was not built up, but wisely turned into parks, promenades, drives and speedways. This is the origin of the justly celebrated Parisian boulevards, the elegant Ring Street of Vienna, and other beautiful streets of European cities. Thus, from both sanitary and esthetic points of view, an ancient curse was turned to a modern blessing.

Various Plans

Example is contagious, and even in business-like America we recognize the importance of esthetic considerations in street construction. We might raise the question: Is our prosaic checker-board scheme the best for all purposes? For orientation it is the simplest plan; but for attractiveness the city of Washington has radial streets, affording views of public buildings, interesting monuments, pretty parks; while strategic reasons guided Napoleon III in planning slanting avenues for Paris so that barricade fighters could be overcome by artillery sweeping the streets from centers. The very practical reasons of saving time and energy led some cities to construct radial streets. Suppose in Fig. I you wish to go from A to C; in the rectangular system you would be compelled to go along the sides AB and BC of the right angled triangle abc, or a broken line equivalent to the sum of these sides, while the hypotenuse AC is the straight line which joins the two points and hence the shortest distance.

A number of towns as, for example, Karlsruhe, Baden, and Madison, Wis., have a circle or square or plaza or park and public buildings at the center and streets radiating from this center. As the diagonals diverge, a comparatively small portion of the town is benefitted by them, so that these places in additions and suburbs revert to the rectangular plan, while in some larger cities, as Berlin and Washington, there are several centres.

There ought to be some combination of the perpendicular, horizontal and diagonal that would enable one to avoid traversing unnecessary space. Some imagine they see in hexagonal blocks, a beehive system, the plan of the city of the future. A glance at the diagram Fig. 3 will show that at street corners with three radiating streets, orientation will be perplexing; and with no thoroughfare there could be traveling in straight lines in no direction save the short distance of one side of a block.

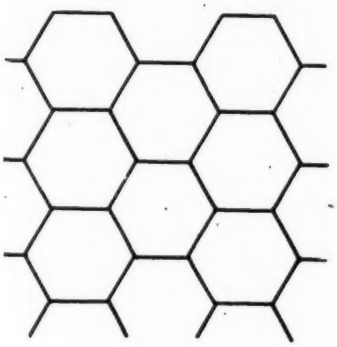


Fig. 3.

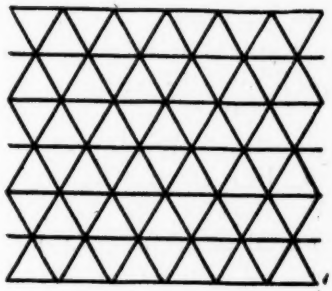


Fig 4.

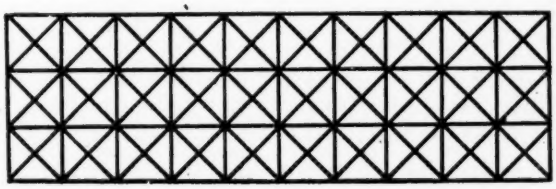


Fig. 5.

With two sets of diagonal streets crossing at angles of 60° combined with one set of horizontal lanes bisecting the 120° angle there would be formed blocks in the form of equilateral triangle with six rays from a center as shown in Fig. 4.

A better plan would be the combination of perpendiculars, horizontals and diagonals obtained by superposing Fig. 2 on Fig. 1, thus constructing blocks in the form of right angled triangles, such as are in vogue in some towns in France, Holland and Bel-

gium. There would be eight rays at some corners, four at others, thus avoiding the monotony of the hexagonal system.

In this construction squares might at intervals be used as parks or playgrounds or for markets or plazas, and half squares (opposite triangles) might be put to such use. Thus we could continue showing modification of old plans or the constructions of new ones. That, however, would be waste of time and space, because it is easy to draw regular plans on paper, but often difficult to apply them to actual situations. It is therefore best not to be bound rigidly to any geometric scheme but to make allowance for roads already in existence, for inequalities of the ground, for waterways and other obstacles.

Streets should be broad to accommodate traffic, furnish room for rapid transit, afford more air space, etc.; but, if, in planning a town, space is dealt with too lavishly, a city of magnificent distances will result, and that means waste of time and energy.

Ideal conditions would be found where new settlements are to be planned away from any body of water on level or nearly level tracts. It is by no means certain that a town will grow equally in all directions and it is not easy to foresee what part of a carefully made plan will be most quickly developed. Some towns have developed in one direction, having grown along a shore line, so that they appear stretched out in one direction with little depth. The establishment of a railroad station, of a government plant, of a factory, of a market may and does have the effect of attracting population and thus developing a certain quarter. The development of residential suburbs depends quite frequently on the direction of the prevailing wind, because this will drive smoke and bad odors away from the favored locality.

Different street systems are merged when a large city in expanding absorbs neighboring small towns. Where two cities coalesce without amalgamating, we have the case of twin cities of which Minneapolis and St. Paul are a well know example. The campus of the University of Illinois is between the twin towns of Urbana and Champaign, but within the corporate limits of the former. Futher examples of twins are the towns on the borders of states, like Texarkana (Tex. and Ark.) which cannot fuse because they lie in different commonwealths. State lines prevent the absorption of a number of small towns by a large city, of which industrially and commercially they are a part; thus New York cannot annex Jersey City or Hoboken, nor St. Louis East St. Louis, nor Cincinnati, Covington and Newport and a number more. Detroit lies in Michigan, and the town of Windsor across the river in Ontario is actually foreign. However, New York, by expanding and absorbing New York corporations, thus forming Greater New York, maintained its position as chief city of the Western Hemisphere.

THE GRAPE HARVEST IN ASIA MINOR

By Isabel M. Blake
Hampton Institute, Hampton, Va.

THE grapes of Asia Minor have a greater food value than most of our species, being more meaty and substantial. The peasants almost live on grapes and bread during certain seasons of the year. The district just south of the Turus and east of the Amanus Mountains, west of the western-most bend of the Euphrates and north of Aleppo is one of the most famous grape regions of the Turkish empire.

With the Armenians, the beginning of the grape harvest is at "Water Easter," early in August, a festival in commemoration of Gregory the Baptizer, founder of their church. On this day, the people are wont playfully to "baptize" each other in the streets, and the fountains are surrounded by groups of merry, dripping children, who make a game of throwing water and dodging it. On that day, also the people first repair to the vineyards, as there is a superstition, strictly observed, that grapes should not be gathered before this festival. On that evening, for the first time of the year, donkeys bring home baskets loaded with the juicy fruit, and every peasant whom you meet will offer you a bunch of the first-fruit of his vineyard.

For those of the city people who own vineyards, the grape-harvest constitutes the summer outing. They live in their vineyards for several weeks, enjoying the fresh air and freedom, and gathering the different choice varieties that succeed each other, such as the "Bubble", a delicate white grape from which the skin may be removed, or the "Colonel," a hard, rich, ruddy kind.

In October comes a species that is not considered edible, but, being small, tasteless and very prolific, is used in the manufacture of grape sugar, and sweet-meats. It is interesting to visit the place where this process is going on.

Several owners of vineyards generally combine to build a crude sugar refinery. This consists of a row of stone huts where the workmen sleep, a stone or iron kettle, into which the grape-juice runs through great troughs, from the press where it is tramped out by the feet of workmen. It is a comfort to notice that these men always wash their feet carefully before entering the press, so that perhaps one ought not to object to this method of working, any more than to a cleanly woman kneading bread.

The juice is boiled and skimmed in great kettles, and the whole place reminds one strongly of a maple sugar camp, except for the difference in season, and in the product. This last is a very delicious molasses. Sometimes it is boiled down and beaten

till it is almost as hard as butter and is very light. It is called *pek mez.*

At this time of year every home becomes a candy factory. The art of making the grape-juice sweets requires great skill, and the women who can do it acquire special fame. It is the custom for several related households to gather in the court-yard of one, and manufacture all the sweets to be laid up for consumption that year. When they have finished at one house, they all gather at the next. For three weeks, all members of all the households are busy making rounds, helping to prepare the sweets, under the direction of the most skilled members of the family. The whole time and the entire house of any one family is given up to this process, and afterwards, there is a grand house-cleaning.

It is worth while to visit a court-yard where this is going on. In one corner is a stone fire-place over which is a huge iron tub, full of the boiling juice. At a certain stage, starch is mixed with this to give coherence to the sweets. These are of different forms. Whole bolts of white cotton cloth are spread on the pavement and covered with a coating of the grape and starch mixture. When hardened it comes up in sheets, from which pieces are torn and folded carefully into layers with spices, sugar and chopped nuts between. Or halves of walnuts; pistachios or almonds are tied at regular intervals on long strings. These are dipped in the grape-juice and starch, and hung on racks, where they harden and form the Oriental "stick of candy". Into the residue in the pan, cracked wheat and spices are stirred, forming a sweet, sticky cake.

A Westerner does not acquire a taste for these sweets at once, for they seem insipid, but the hot, thick molasses, or the cool "grape butter" are delicious.

Before the war, considerable quantities of these peculiar sweets were shipped to New York, for the consumption of our Oriental population.

Professors C. K. Leith and V. C. Finch, of the Department of Geology and Geography of the University of Wisconsin, have been called to Washington to serve as expert assistants to the U. S. Shipping Board, Professor Leith in connection with minerals and Professor Finch in the capacity of agricultural geographer. Both have leave of absence from the university for the present semester. Professor Walter S. Tower of the Department of Geography of the University of Chicago is acting in a similar capacity.

SUPPLEMENTARY WORK IN THE TEACHING OF GEOGRAPHY*

By E. S. CLEM
Bovey, Minn.

DR. CHARLES A. McMURRY has said "Geography is the study of the interaction between man and earth." Professor Dewey has said "The aim in developing a topic in geography should be to picture life responses and to cultivate in the pupil that attitude of mind in which he is on the alert for geographical cause." Professor Salisbury has said "Geography is best adapted to preparation for life in general, for it deals with common things—land, water, air, plants, animals and human beings, with the everyday facts of life."

Since geography is to teach the interaction between man and earth, to cultivate in the pupil the attitude of mind in which he is watchful for geographical cause, and since it deals with the everyday facts, the common things of life, it is very essential that more than a text book be used to teach the subject in the most successful manner.

Supplementary material is necessary. What is supplementary material? It is anything aside from the text book that will aid in gaining knowledge about the interaction of man and earth, that will make the pupil observe geographical causes, or that will assist the child in understanding the everyday facts of life. Hence, it would be too great an undertaking to name all the different kinds of supplementary materials; it is with some of the general types only I wish to deal.

First: Let us consider the kind that is better adapted to the need of the teacher, that will assist her especially in keeping herself fresh in the subject, in order that her pupils may gain knowledge from a running fountain, sparkling with enthusiasm, instead of from the stagnant pool of mental inactivity. This class could be sub-divided as follows:—books, magazines, travel, and attendance at summer schools; books of a pedagogical nature, bearing on the subject, such as "Methods in Geography," "Courses in Geography," etc.

Magazines, such as the Review of Reviews, the World's Work, the Literary Digest and others dealing with current, political, social and industrial events are almost indispensable. Geography is constantly changing; the appreciation of this fact may be

*Abridged from a paper read before the Geography Section of the Northeastern Minnesota Teachers' Association.

gained through the daily papers. The Journal of Geography is about the best inexpensive professional help a teacher can secure.

Travel is a luxury, but exceedingly helpful in the teaching of geography, because first-hand knowledge is better than that gained from books. The teacher whose salary is sufficiently large to enable her to take an occasional trip during vacation will find her value increased accordingly, providing the journey has been planned with a purpose.

Now let us consider the materials which are more closely connected with the pupils' work. Globes and maps are probably the most essential aids to the text. The globe gives a better idea of the relative sizes and positions of oceans, seas, continents and islands than can be obtained in any other way. Globes deal with the earth as a whole, while most maps deal with localities but are necessary in studying sections of the earth's surface.

It is difficult to give young children an understanding of facts not within their field of observation. They are more or less skeptical; and though they may tell you, when questioned, that the earth is round, that does not mean they believe it; they want proof. So when the sunlight comes streaming into the room, do not shut it out until you have made use of it. Place objects in its path and ask the pupils to observe the shapes of the shadows cast by the objects and compare them with the shapes of the objects which cast them. Then a few questions such as these: What is the shape of a shadow cast by a ball? Round? Then what is the shape of the earth if it always casts a round shadow on the moon during an eclipse? An apple, with a knitting needle for an axis, may be used in the sunlight to demonstrate day and night, and to show that night is only the absence of sunlight. By inclining the needles, the cause of the change of seasons may be made clear. A peeled orange may be used to show the convergence of the meridians.

Map Making

The making of maps is helpful in gaining knowledge about any section of country. In studying surface features, relief maps may be made out of coarse salt, flour and water, or *papier mache*. The main thing in map drawing is to be able to sketch quickly the form of a continent, country, state or county and locate most important cities, rivers, lakes, locations noted for various products, arid or rainy belts, and places of densest and least population. A great amount of judgment must be used in map drawing; it must not be either slighted or overdone.

The Department of Interior through the United States Geological Survey has published a selected list of maps, illustrating

physiographic types in different parts of our country. They may be purchased for a small sum per map from the superintendent of Documents, Government Printing Office, Washington, D. C.

The best supplements in teaching land and water forms are lantern slides and stereoscopic views. By the aid of these the world can be brought into the classroom and knowledge can be gained almost first hand. The stereoscopic view is more realistic than the lantern slide as it gives depth of view and the true appearance of perspective.

Pictorial magazines, especially the National Geographic are very helpful. No school library is complete without it. Advertisements of large railroad companies, picturing interesting scenes and places along the route, may be obtained by writing to the General Passenger Agents of the roads. Sometimes they may be secured from the local station agent.

The School World, published by D. H. Knowlton, frequently puts out a number, entirely devoted to the geography of some locality, such as the one on "The Phillipines" or the one on "Japan and the Japanese." Any of the back numbers may be selected and purchased at five cents each. I have purchased many of these little booklets and have used them to good advantage in teaching geography.

Selections of literature may sometimes be used to advantage. Poems and descriptions of natural scenery often contain valuable information. James F. Chamberlain has an interesting article on "Literary Selections as an aid in teaching geography" in the Journal of Geography for September, 1916.

A good reference library is of prime importance in teaching geography. The Encyclopedia covers almost every topic in geography. The "Books of Knowledge" in twenty volumes are highly interesting from a child's point of view. "The Library of Valuable Knowledge" in twenty-five volumes is both useful and interesting to older pupils and teachers.

A class in one school may correspond with children of the same grade in a place of different environment. Their home surroundings will become more interesting when their motive is to make them appear at their best to someone who has never seen them. A boy on the Iron Range of Minnesota may correspond with a farmer's son in Indiana; the irrigated orange groves of California become more interesting to a class who, in return, describe the oyster fisheries of Baltimore. Such correspondence may be carried on by the class, but perhaps more real benefit would be derived by having such pupil write to some child in a different locality.

An excursion to a factory or a field trip is a valuable way of teaching, for seeing is believing to a child. There are two difficulties, namely, the time it requires and the difficulty in maintaining order. Discipline will not be so hard if the teacher has prepared the pupils for what the pupils are to see and if the teacher has been over the ground before.

A laboratory for geography is a luxury few schools can afford, but even without one many valuable experiments may be performed. For instance, in a room where there is a globe, suspended from the ceiling, a thermometer may be fastened to the rope above the globe and then drawn to a point near the ceiling. Another thermometer should be placed on the floor and after fifteen or twenty minutes, the temperatures may be compared to see of warm air does go up and cold air down. This is not the only experiment to demonstrate this fact, but it is interesting to note the difference between the temperature of the floor and ceiling. Another experiment to show why it is colder in winter, with the earth three million miles nearer the sun than in summer, can be made as follows: at noon, on a sunny winter day, place two dark colored pans, filled with loose soil, each having a thermometer about half an inch under the soil; have one pan standing on the level and the other, tilted so that a stick, placed perpendicular to it will cast no shadow in the noonday sun. After an hour examine the thermometer and the one in the tilted pan will be found to register higher, thus proving the direct rays of the sun are more effective than the oblique rays received in winter.

In conclusion it is needless to state that I have not exhausted the subject, but if anything I have said shall help teachers in their work of teaching geography, I shall be satisfied.

Mineral Production of Alaska in 1917 Over $41,000,000

In 1917 Alaska produced minerals valued at $41,760,000. The gold produced in 1917, $15,450,000, of which $9,850,000 was derived from placer mines, was less than that produced in 1916, which was $17,240,000, and is the smallest since 1904.

During the year Alaska also produced silver valued at $1,050,000, coal valued at $300,000, lead valued at $160,000, tin valued at $160,000, antimony valued at $40,000, and tungsten, chromium, petroleum, marble, gypsum, graphite, and platinum valued at $600,000.

During 33 years of mining Alaska has produced more than $391,000,000 in gold, silver, copper, and other minerals. Of this amount $293,000,000 represents the value of the gold, and $88,200,000 that of the copper.

THE WORLD'S SPONGE FISHERIES

A SPONGE is a marine animal of a very low order. In its natural form it resembles a mass of liver covered with a thin skin usually of dark color and perforated by the openings of the canals which ramify throughout the body. The sponge, as we buy it, is only the fibrous skeleton of the animal. The fleshy parts consist of cells with different functions. The larvae of the sponge, hatching from the eggs, flow out through the canals and after a day or two attach themselves to a rock or coral reef. From two to five years are necessary for the sponge to mature from the larvae stage to a marketable size. The sponges also reproduce by means of budding; as this budding increases the colony increases in size.

Sponges are found off the Australian coast, off the coasts of Florida and the Bahama Islands, in the Red Sea, and in the Mediterranean especially in the Adriatic Sea and off the coast of Tunis. The Australian sponges are used only locally. Those from American waters are plentiful but are of coarse varieties. The beds of the Red Sea do not yield large numbers but the quality is superior to that of the American sponges. The finer toilet sponges, Turkish and cup sponges come from the Mediterranean. The fineness and elasticity of these sponges is due to the fact that they are found in deep water, ranging from 150 feet to 200 feet; here there is less disturbance than in shallow water.

In water to the depth of 40 feet the sponges are obtained by the use of long-handled hooks which tear them from their position. In order to find the beds, a "water glass" is used; this consists of a pail with a glass bottom or a hollow iron cylinder with a pane of glass at one end. When submerged this water glass prevents the sight of the fisherman from being disturbed by the reflecting surface of the water. The actual fishing is done in small boats called "dingys." The larger boats are used to transport the small boats to the fishing grounds and to market the catch.

In deeper waters, if the sponges are not very valuable, a dredge is used. This consists of a bag-like net with a wire frame. When dragged along the bottom this dredge tears the sponges loose. Both the hooking and dredging processes are wasteful because so many of the immature sponges are destroyed and because the matured sponges sometimes are torn loose before the larvae have been thrown off. Sponge beds treated in this way are soon depleted.

Our government is trying to find a practical method of increasing the supply through cultivation. Small sponges are at-

tached to cement blocks and lowered into the ocean. Since it takes from 3 to 7 years for these cutlings to mature, the experiments have thus far not been very successful in establishing the practicability of this method.

In the Mediterranean Sea, both because of the greater depth of the beds and because of the greater value of the sponges, professional divers are employed. The divers inflate their lungs to the greatest possible extent before diving. Attached to a rope, they dive into the water holding a marble slab of about 25 pounds in their hands to weight them down. The divers can go only 100 to 240 feet deep on account of the enormous pressure of the water; at 120 feet the pressure is 53 pounds to the square inch; at 240 feet the pressure is 106 pounds per square inch. The unequal pressure within and without the body causes bleeding of the nose and mouth especially at the beginning of the season before the divers have become accustomed to this abnormal condition. Two minutes is the usual length of the diver's stay under water; three and a half minutes is the utmost extent of endurance. After he has gathered the sponges in a bag he jerks the rope and the boat-men pull him up. When he reaches the top, the air rushes into his lungs with a roaring sound and the man usually faints from the sudden change of pressure.

The preparation of the sponges for market is simple. The Florida sponges are not so carefully prepared as those from the Mediterranean. After 12 hours of exposure the sponges are considered killed, after which they are put in pens where the fleshy matter decomposes and is washed out either by the tides or by running water. Then they are dried, bleached in the sun or by chemicals, sorted according to size, strung on cords and sent to ware-houses. Here the bases are clipped off or trimmed, the sponges are sorted according to quality and packed into bales for shipment.

The coarse varieties such as the yellow, velvet, grass, and glove sponges are used by painters, in factories, and for all kinds of rough purposes. Many of the American sponges are shredded and used for the stuffing of cushions; on account of elasticity sponges are especially well suited to this purpose. In normal times the coarsest varieties sell for 20c to $1.50 a pound. Sheeps wool sponges sell for $3.00 to $6.50 a pound. The average output of Florida amounts to about $700,000 annually.

The most expensive are the silk, cup-shaped, and the Manchuka honey-comb sponges which come from the Mediterranean. Cup sponges measuring from seven to eight inches across the top sometimes retail for $15 to $25 a piece. One choice specimen of this size sold for $50. F. W.

GEOGRAPHICAL ASPECTS OF MESOPOTAMIA*

THE land of Babylonia is not only the gift of the Tigris and of the Euphrates in the past, but it has no life in historical times save for them and their waters. A study of these rivers is therefore not merely important as a background for the history; it is in every sense of the word the very history itself. It is not necessary here to trace their upper courses, but certain facts have a vital effect upon Babylonia. When the Euphrates reaches the alluvium, it has already traversed a distance greater than the total length of most world rivers. It has long ago reached grade. It is far from the snows which fed it, and in the last half of its journey it has received but little water from tributaries. Indeed, it has lost far more than these could add in its progress through a region which during the greater part of the year suffers a torrid heat. So in Babylonia it is an appreciably smaller stream, broad indeed but shallow, lazily moving along its chocolate- colored water and spreading over the fields with the greatest ease the fertilizing silt which it holds in solution. We shall not be surprised to find so many of the earliest cities of the land supplied with water from the Euphrates, even though they did not lie directly on its banks. Its low shores made easy the building of canals leading from it, its slow current reduced danger to their walls to a minimum, and progress was equally possible in either direction. If its heavily laden waters rapidly silted up the canals and made the *corvee* to clean them out the constant fear of the peasant, those same waters furnished a fertilizer without equal.

The Tigris reaches Babylonia after a much shorter journey. What is more, it is never far from a new tributary which brings into it a mass of rushing water from the never far-distant snow hills. Thus it enters the alluvium a mighty stream, narrower but far swifter than its sister river. Though nearly at grade, there is still enough distance to descend to make it move swiftly in a narrow trough, and it is not until well to the south that it spreads out into swamps, and canals become fairly common.

The strongest argument for union in early Babylonia must have been furnished by the rivers. The small rainfall made the land absolutely dependent on the rivers, and these, especially the Euphrates, can be controlled by man without too much difficulty. When the rivers were neglected, as they are so largely today, the result was silted-up canals, pestilential swamps reeking with ma-

*Note—One would not expect to find geographical material in *The American Journal of Semitic Languages and Literatures:* yet the following vivid description is from a paper in Vol. 33 (July 1917) of that journal. It was written by PROF. A. T. OLMSTEAD, now of the University of Illinois.

laria, and a stream whose wanderings could not be foretold. Such a condition we found in 1908, when the Euphrates had left entirely its former bed and had flowed into the canal to the west. The site of Babylon was without a drop of running water, at Hillah a bridge of boats was anchored in the shallow dry bottom, and the palms along the banks were dying for want of moisture. Should such a condition exist for a period of years the country would become a desert.

Human agency has shifted back the course of the errant stream, and it could so do in antiquity. More than once do we hear of damming the river as the most important element in a campaign. For example, we are told, "Abishi, the son of Samsu iluna, to conquer Iluma ilu, his heart moved him to dam the Tigris, and he damned the Tigris, but he caught not Iluma ilu."[1] By shifting the course of the rivers, still more by blocking up the canals, the enemy could destroy communications, cut off the army, and even starve out its opponents. The whole river and canal system pointed to unity, and the surprising thing is that the response to the geographical environment was so slow in being brought about. * * * *

The palms form a long fringe along the rivers and canals or hide the villages, with their shapeless blocks of mud huts and their gardens surrounded by mud walls. The great fields of wheat, barley, millet, and sesame which formerly made vast masses of green have now largely disappeared, and the bare plain stretches to the horizon, broken only by patches of alkali which the rains have brought to the surface, by low mounds which mark the site of ruined cities, and by two parallel embankments where was once a canal. As the heat of the day increases, the mirage begins, and by nine o'clock, even on a winter's day, the shimmering air shows vast beds of water where in reality is only alkali baked soil, seared with huge cracks.

Babylonia has a winter, but a mild one—a few sudden storms of pouring rain, some overcast days, nights when a charcoal fire is welcome, a few when ice forms and in the morning the lines of buried mud brick walls show in the shapeless mounds. With the morning sun the air is delightful, and it is rarely too cool for comfort. Soon, however, the days become hot, and even in February there may be danger of sunstroke. By the beginning of May the last clouds have disappeared, and for seven months there is a reign of terror. The temperature mounts to unbelievable heights, often above 125 degrees. The hardened native shuns the midday sun, and for the stranger it would be suicide.

THREE YEARS OF WAR COMMERCE

IT is now possible to "round up" the figures of United States commerce in the first three years of the war and compare the same with the year immediately preceding the war.

The figures of our commerce as stated by the Government represent fiscal years ending June 30, and as the war began in the early part of August, 1914, we may assume that the trade of the United States in the fiscal years ending June 30, 1915, 1916 and 1917 represent war years, and the figures for the year ending June 30, 1914, represent the year immediately preceding the war.

The first few months of the war, which began in the early part of August, 1914, had comparatively little effect upon our trade, causing in fact a reduction in both imports and exports by reason of the disarrangement of shipping facilities, and ocean rates, and it was not until the latter part of the fiscal year 1915 that the great stimulation in our exports by reason of the war began to be apparent, and this is equally true with reference to imports, which showed a decline in the first few months of the war and only began to show increases in the later months of the year. As a consequence the figures of the fiscal year 1915, of which ten and a half months were actually within the war period, show but small increases when compared with the fiscal year 1914, which was entirely outside the war period. It is in the fiscal years 1916 and 1917 that the marked increases in both imports and exports are apparent.

The import and export figures of the fiscal years 1914, 1915, 1916 and 1917 are as follows:

Fiscal Year	Total Imports	Total Exports
1914	$1,893,926,000	$2,364,579,000
1915	1,674,170,000	2,768,589,000
1916	2,197,884,000	4,333,483,000
1917*	2,633,000,000	6,279,000,000

On the import side the increase has been little more than normal. Total imports in 1916, the third year of the war, were but about 40 per cent greater than in 1913, three years earlier. Even on the export side the increase is not as great as we might expect in view of the enormous increases in certain lines of articles, for the total exports of 1917 are but 166 per cent greater than those of 1914, the year preceding the war. True, in many articles the gain has been enormous, explosives, for example, being in 1917 about $820,000,000 against $6,000,000 in 1914; commercial

* June estimated.

automobiles $41,000,000 against $1,000,000 in 1914; iron and steel manufactures $1,100,000,000 against $251,000,000 in 1914; breadstuffs $590,000,000 against $165,000,000 in 1914; meat and dairy products $395,000,000 against $146,000,000 in 1914; horses and mules $90,000,000 against $4,000,000 in 1914, and sugar $73,000,000 against less than $2,000,000 in 1914, all these figures by articles for 1917 being based upon official returns for 10 months of the year. For grand divisions, countries and great groups the figures are official for 11 months of the year.

These great increases in certain articles exported, of which much has been said in public discussions, through the press and otherwise, have created an exaggerated opinion as to the increase in total exports of which many important articles have declined. Cotton, for example, exported in 1917 was but about $520,000,000 value against $610,000,000 in 1914, and in many other articles such as lumber, agricultural implements, fertilizers, naval stores, tobacco manufactures and others of very considerable importance, the exportation in 1917 is much less than that of 1914, the year preceding the war, while many non-war materials show less than the normal gain.

A closer view of the effect of the war upon the trade may be had from an examination of the imports and exports by great groups of articles in each year of the war compared with 1914, the year immediately preceding the war. It will be seen from an examination of these that the chief increase in *importations* occurs in manufacturing material, consequent upon the activity of our manufacturers in responding to the demands of the war area. Crude manufacturing material, which includes such articles as hides and skins, India rubber, fibres, wool, cotton, copper in ore, and silk shows the largest increase, the total for 1917 in round numbers being $1,100,000,000 against $633,000,000 in 1914, while partly manufactured material also for use in manufacturing, such as pig tin, pig iron, pig copper, etc., show a total of $465,000,000 against $319,000,000 in 1914; foodstuffs show a much less gain than that of manufacturing material, while finished manufactures show an actual fall off, being in 1917 but $369,000,000 against $449,000,000 in 1914.

On the *export* side the group "Manufacturing Materials" shows an actual decline. The two groups of foodstuffs show, of course, large gains, foodstuffs in a crude condition, chiefly cereals, having been in 1917 $722,000,000 against $137,000,000 in 1914, "foodstuffs partly manufactured," including meats, flour, etc., $734,000,000 against $293,000,000 in 1914.

The greatest gains, however, occur in manufactures. The groups "Manufactures for Further Use in Manufacturing," which

includes pig copper, brass, zinc, lead, iron and steel in a partly manufactured state, and leather, show a total of $1,190,000,000 in 1917 against $374,000,000 in 1914, while "Manufactures Ready for Use," which includes explosives, fire arms, barbed wire, metal working machinery, manufactures of brass including shells, woolen and cotton goods, boots and shoes, cars, locomotives, rails and many other manufactures of iron and steel, show a total for 1917 of $2,935,000,000 against $725,000,000 in 1914, the 1917 figures in all of these statements being based upon eleven months' actual figures and an estimate for the twelfth month of the year. —[*Civics and Commerce.*]

CURRENT MATERIAL FOR THE GEOGRAPHY TEACHER

More Ships Traversing the Panama Canal; Few Slide Troubles

TRAFFIC through the Panama Canal last year increased largely over the previous years, according to the annual report of Col. Chester Harding, governor of the canal. A total of 1,876 vessels of all classes passed through the canal from July 1, 1916, to June 30, 1917, inclusive.

Of these, 905 passed from the Atlantic to the Pacific, and 971 from the Pacific to the Atlantic. In the fiscal year 1915, 1,088 vessels passed through the canal and in 1916, 787. The total number of vessels transiting the canal since it opened for commercial traffic in August, 1914, is 3,751. The total net tonnage, canal measurements, for the several years is as follows: 1915, 3,849,035; 1916, 2,479,762; and 1917, 6,009,358. The cargo tonnage transported was, for 1915, 4,969,792; 1916, 3,140,046; and 1917, 7,229,255.

The traffic for the year yielded a revenue of $5,631,781.66 from tolls. The rules for levying have thus far remained unchanged.

It will be remembered, says the report, that under present law and regulation tolls are based on canal tonnage, at the rate of $1.20 per net ton, except when this product exceeds the registered net tonnage, United States rules, at a rate of $1.25 per ton, in which case the lesser amount is collected. The confusion, lack of uniformity, and loss in revenue to the canal resulting from the present arrangement have been fully discussed in previous reports, and remedial legislation is now pending in Congress.

In this connection, attention is invited to the fact that the revenues from tolls for the past fiscal year would have been

$6,668,247.32 if canal rules alone had governed, which is $1,036,-465.66 more than the amount actually collected.

The year's dredging chargeable to construction, which includes all the excavation in the canal prism at locations where the full widths and depths have not been once obtained is as follows: Gaillard Cut, 183,904 cubic yards; between Gamboa and Pedro Miguel Lock, 246,998 cubic yards; and Pacific entrance, 221,133 cubic yards. At the end of the year there remained 1,409,149 cubic yards of original excavation to be done within the limits of the canal prism.

Cucaracha slide has given no further trouble since the large movement that blocked the canal in August, 1916, as described in the report of last year. To reduce the chances of interruptions to traffic due to future similar movements if they occur, the material in the slide was removed for a distance of 100 feet outside the canal prism.

It is believed that in the future the great slides of the canal will be of historic interest only.

Deducting from the total canal appropriations all appropriations for purposes other than construction, there remains a total of $378,511,853.92 appropriated for the construction of the canal and its immediate adjuncts.

Copper Production for 1917 Exceeds Half Billion Dollars

The production of copper in 1917 was slightly less than in 1916, from all plants that make blister copper from domestic ores or that produce refined copper. At an average price of about 27 cents a pound the output for 1917 has a value of $510,000,000, as against values of $475,000,000 for 1916 and $190,000,000 for 1913.

Arizona produced 687,800,000 pounds, a slight decrease from the production in 1916, which was 694,800,000 pounds.

Montana produced 278,000,000 pounds, as against 352,000,000 pounds in 1916.

Michigan produced 275,000,000 pounds, an increase over the 269,794,000 pounds produced in 1916.

Utah produced 245,000,000 pounds, as compared with 232,-000,000 pounds in 1916.

Nevada produced 110,000,000 pounds, an increase over the 100,800,000 pounds produced in 1916.

Alaska, with a production of about 87,500,000 pounds, showed a large decrease from the previous year.

Iron Ore in 1917

The iron ore mined in the United States in 1917 amounted to about 75,324,000 gross tons, compared with 75,167,672 tons in 1916, an increase of 0.2 per cent. The shipments from the mines in 1917 are valued at $236,178,000, compared with $181,902,277 in 1916, a decrease in quantity of 2.9 per cent, but an increase in value of 29.8 per cent.

About 85 per cent of the ore mined in 1917 came, as usual, from the Lake Superior district, which shipped 64,275,000 tons. The shipments of iron ore by water from the Lake Superior district, amounted in 1917 to 62,498,901 gross tons. It thus appears that the iron-mining industry in the Lake Superior district has been able to bear the strain of the war demand but not to duplicate the great record of ore shipments made by the district in 1916, which amounted to 64,734,198 gross tons. The slight falling off, it is understood, was due to less favorable weather for shipping early and late in the season of 1917 rather than to inability of the Lake fleet to handle the ore mined.

The South mined and shipped more than 8,100,000 tons of iron ore, the bulk of which was produced in the Birmingham district, Ala., but the iron mines of Georgia, Tennessee, North Carolina, and Virginia contributed about 1,400,000 tons to the total.

The Northeastern States—New Jersey, New York, and Pennsylvania—increased their production slightly as compared with 1916 and shipped to blast furnaces approximately 2,446,000 tons of ore. This quantity, however, represented a decrease of 4.1 per cent as compared with the shipments in 1916.

Colorado, New Mexico, and Wyoming, the principal iron ore producing states in the West, are estimated to have mined and shipped approximately 666,000 tons of iron ore, compared with 717,660 tons in 1916, a decrease of 7.2 per cent.

ORGANIZATION OF A TEXAS COUNCIL OF GEOGRAPHY TEACHERS

GEOGRAPHY is beginning to come into her own in Texas. Two important things have recently been accomplished.

In November of 1916, at the State Teachers' Association, a Geography section was created. Up to this time this vital subject had been represented by one paper on the program of the Science section. At the first Geography section meeting, in November of 1917, at least fifty teachers were present and, under

the direction of Chairman E. G. Littlejohn of Galveston, the following program was carried out:

1. Present Status of Geography in Texas
   a. In Colleges and Normal Schools, J. W. Pender, North Texas Normal College.
   b. In Intermediate and High Schools, Miss Emily Kellogg, Waco.
   c. In the Rural Schools, Supt. G. A. Pringle, Marlin.
2. Fundamentals vs. Incidentals, Miss Margaret Hunter, El Paso.
3. Visual Instruction; Its Importance and the Means for Giving It, Miss Lula Parker, Ft. Worth.
4. What the School Library Can Do for the Geography Teacher, Miss Irene Saunders, Galveston.

At the close of the program the work of the National Council was presented, and, after a brief discussion, it was unanimously decided to make of the Geography section a State Council of Geography Teachers. The officers elected for the 1918 meeting form the executive committee of the State Council with the writer as chairman of the membership committee. The officers are as follows:

Supt. E. G. Littlejohn, Galveston, chairman.
Miss Elizabeth Woolworth, San Angelo, secretary-treasurer.
Miss Harriet Smith, Huntsville, chairman membership Com.

ACTIVITIES OF THE MICHIGAN GEOGRAPHY TEACHERS

UNDER the leadership of Professor R. D. Calkins, president of the Michigan Council of Geography Teachers, several promising lines of work are being initiated. A letter outlining proposed activities has been sent to members of the executive committee. The State Teachers' Association has accorded to geography a section in the annual meeting; and the spring meeting of the Council of Geography Teachers will be held jointly with the Geography Conference of the Michigan Schoolmasters Club. Two sessions of this meeting are planned, one to be devoted to Commercial Geography and closely related topics, and the other to a report on the status of geography in Michigan high schools.

The state has been divided into four sections, each under the leadership of prominent geographers. A campaign for members of the Council is under way.